STATE OF SOUTH CAROLINA

BEFORE THE PUBLIC SERVICE COMMISSION

Docket No.: 2019-224-E South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy *Carolinas*, LLC	
Docket No.: 2019-225-E South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy *Progress*, LLC	**VOTE SOLAR CROSS EXHIBIT 14**

DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC

Request:

Please refer to the IRP Report at page 8, which states, "All pathways included in the 2020 IRP keep Duke Energy on a trajectory to meet its carbon goals over the 15-year planning horizon." Has Duke Energy conducted any analysis or applied any criteria to determine whether the 2020 IRP pathways 'keep Duke Energy on a trajectory to meet its carbon goals'? If so, please provide this analysis and/or this criteria. If not, please provide a justification for this statement.

Response:

As stated on page 8, "Duke Energy announced a corporate commitment to reduce CO2 emissions by at least 50% from 2005 levels by 2030, and to achieve net-zero by 2050". All pathways included in the 2020 IRP meet at least 50% reduction CO2 reduction by 2030, but the lower cost plans would generally require more aggressive action after 2030 to achieve net zero carbon by 2050. In general, this becomes a trade-off between potential cost-savings from giving technologies time to improve and costs of carbon free resources (including ZELFRs) to decline, versus potential for increased cumulative carbon emissions along the pathway to net zero carbon by 2050. The Duke Energy 2020 Climate Report included a Net-Zero Scenario Analysis showing changes in energy mix from 2030 to 2050 demonstrating the need for continued growth of renewables and implementation of ZELFR technology in the 2040 timeframe. Using the Climate Report as a guide, ZELFR technologies will be needed in Portfolios A, B and C in the 2040 timeframe, and Portfolio A will need an accelerated adoption of renewables post 2035. Advantages of slower transition associated with portfolios A, B, and C include additional time for technological development and price decline of renewables and storage technologies.

Person responsible: Robert A. Mc Murry, Director – Production Cost Modeling & Analytics